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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,083	02/11/2004	Osamu Sagano	02910.000118	1563

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
SHAPIRO, LEONID	
ART UNIT	PAPER NUMBER
2629	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/775,083	SAGANO ET AL.	
	Examiner	Art Unit	
	Leonid Shapiro	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,6,8,11-13,15,17,19 and 22* is/are rejected.

7)☒ Claim(s) *3,5,7,9,10,14,16,18,20 and 21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 6-17-04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2,4,6,8,11-13,15,17,19,22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwama et al. (6,177,914) in view of Hansen (6,429,836) and Yamada et al. (5,224,480).

As to claim 1, Iwama et al. teaches an image display apparatus (see Fig. 1, item 1,Col. 5, Lines 52-53), comprising:

multiple image-forming devices connected to multiple row lines and column lines and disposed in the form of a matrix (See Fig. 1, items 2-3, Col. 5, Lines 52-67);

scanning means connected to the row lines (See Fig. 1, item 2, Col. 5, Lines 65-67);

modulating means connected to the column lines (See Fig. 1, item 3, Col. 6, Lines 1-5);

image-forming members severally associated with the mage-forming devices and having a nonlinear characteristic with respect to a driving condition of the image-forming devices (See Fig. 3, items V, T, Col. 7, Lines 4-8);

gradation converting means for converting a gradation characteristic of inputted image data in accordance with the characteristic of the image-forming members (See Fig. 3, items V, T, Col. 6, Lines 1-7);

compensated image data computing means for computing compensated image data by compensating the output of the gradation converting means (See Fig. 1, item 9, Col. 6, Lines 9-36 and Lines 50-65;

amplitude regulating means for applying a gain for regulating the amplitude of the compensated image data so that the amplitude of the compensated image data corresponds with an input range of the modulating means (See Fig. 1, item 9, Col. 6, Lines 28-31); and

a scene change detecting portion for detecting a change of a scene displayed on the image display apparatus, wherein the gradation converting means performs a gradation conversion corresponding to the gain (See Fig. 2, items 11-12, Col. 6, Lines 51-67),

the modulating means receives the compensated image data amplitude-regulated by the amplitude regulating means as input and outputs a modulating signal to the column lines (See Fig. 1, items3-4,9, Col. 6, Lines 8-11).

Iwama et al. does not disclose compensating the output of the gradation converting means for at least an affect of voltage drop arising due to resistance of the row lines.

Hansen teaches compensating the output of the gradation converting means for at least an affect of voltage drop arising due to resistance of the row lines (See Fig. 4, Col. 9, Lines 2-16 and 23-37).

It would have been obvious to one ordinary skill in the art at the time of invention to incorporate teachings of Hansen into Iwama et al. system due the resistance so as to

set an indicative of the desired brightness of the flat display panel (column 9, lines 24-31).

Hansen and Iwama et al. do not disclose the amplitude regulating means has filtering means carrying out different filter processing in accordance with the output of the scene change detecting portion on the gain computed for each frame.

Yamada et al. teaches filtering means carrying out different filter processing in accordance with the output of the scene change detecting portion (See Fig. 1, items 10-11, Col. 5, Lines 16-28).

It would have been obvious to one ordinary skill in the art at the time of invention to incorporate teachings of Yamada et al. into Hansen and Iwama et al. system in order to improve the distribution of statistic information (See Col. 4, Lines 1-15 in the Yamada et al. reference).

As to claim 12, Iwama et al. teaches an image display apparatus (see Fig. 1, item 1,Col. 5, Lines 52-53), comprising:

multiple image-forming devices connected to multiple row lines and column lines and disposed in the form of a matrix (See Fig. 1, items 2-3, Col. 5, Lines 52-67);

scanning means connected to the row lines (See Fig. 1, item 2, Col. 5, Lines 65-67);

modulating means connected to the column lines (See Fig. 1, item 3, Col. 6, Lines 1-5);

image-forming members severally associated with the mage-forming devices and having a nonlinear characteristic with respect to a driving condition of the image-forming devices (See Fig. 3, items V, T, Col. 7, Lines 4-8);

gradation converting means for converting a gradation characteristic of inputted image data in accordance with the characteristic of the image-forming members (See Fig. 3, items V, T, Col. 6, Lines 1-7);

compensated image data computing means for computing compensated image data by compensating the output of the gradation converting means (See Fig. 1, item 9, Col. 6, Lines 9-36 and Lines 50-65;

amplitude regulating means for applying a gain for regulating the amplitude of the compensated image data so that the amplitude of the compensated image data corresponds with an input range of the modulating means, gain computing means for computing the gain so that the amplitude of the compensated image data corresponds with an input range of the modulating means (See Fig. 1, item 9, Col. 6, Lines 28-31); and

a scene change detecting portion for detecting a change of a scene displayed on the image display apparatus, wherein the gradation converting means performs a gradation conversion corresponding to the gain (See Fig. 2, items 11-12, Col. 6, Lines 51-67),

the modulating means receives the compensated image data amplitude-regulated by the amplitude regulating means as input and outputs a modulating signal to the column lines (See Fig. 1, items3-4,9, Col. 6, Lines 8-11).

Iwama et al. does not disclose compensating the output of the gradation converting means for at least an affect of voltage drop arising due to resistance of the row lines.

Hansen teaches compensating the output of the gradation converting means for at least an affect of voltage drop arising due to resistance of the row lines (See Fig. 4, Col. 9, Lines 2-16 and 23-37).

It would have been obvious to one ordinary skill in the art at the time of invention to incorporate teachings of Hansen into Iwama et al. system due the resistance so as to set an indicative of the desired brightness of the flat display panel (column 9, lines 24-31).

Hansen and Iwama et al. do not disclose the amplitude regulating means has filtering means carrying out different filter processing in accordance with the output of the scene change detecting portion on the gain computed for each frame.

Yamada et al. teaches filtering means carrying out different filter processing in accordance with the output of the scene change detecting portion (See Fig. 1, items 10-11, Col. 5, Lines 16-28).

It would have been obvious to one ordinary skill in the art at the time of invention to incorporate teachings of Yamada et al. into Hansen and Iwama et al. system in order to improve the distribution of statistic information (See Col. 4, Lines 1-15 in the Yamada et al. reference).

As to claims 2,13 Yamada et al. teaches a low pass filter and weakens the strength of the filter with respect to a predetermined frame immediately after a scene change is detected by the scene change detecting portion (See Fig. 1, item 11).

As to claims 3,14 Yamada et al. teaches the filtering means alters the value of the gain to a preset value with respect to a predetermined frame immediately after a scene change is detected by the scene change detecting portion and operates as a low pass filter with respect to frames other than the predetermined frame immediately after the scene change is detected. (See Fig. 1, item 11, Col. 5, Lines 16-28).

As to claims 11,22 Hansen teaches the image-forming devices are electron-emitting devices which emit electrons, the image-forming members are phosphors which emit light when irradiated with electrons emitted from the electron-emitting devices (See Fig. 1, Col. 5, Lines 2-57), and Iwama et al. teaches the gradation converting means performs conversion on the basis of nonlinear conversion characteristics, differing by color of the inputted image data, obtained from the light emission characteristics (See Figs. 5-6, Col. 8, Lines 40-61).

As to Claims 6,8,17,19 Iwama et al. teaches the predetermined frame is from one frame to five frames immediately after a scene change is detected by the scene change detecting portion (See Fig. 2, item 11, Col. 6, Lines 51-55).

Allowable Subject Matter

3. Claims 3,5,7,9-10, 14,16.18,20-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Relative to claims 3,14 the major difference between the teaching of the prior art of record (Iwama et al., Hansen and Yamada et al.) and the instant invention is that wherein the filtering means does not perform filter processing with respect to predetermined frame immediately after a scene change is detected by the scene change detecting portion and operates as a low pass filter with respect to frames other than the predetermined frame immediately after the scene change is detected.

Claims 7,18 depend on claims 3,14.

Relative to claims 5,16 the major difference between the teaching of the prior art of record (Iwama et al., Hansen and Yamada et al.) and the instant invention is that frame immediately after a scene change is detected by the scene change detecting portion, alters the value of the gain to a value estimated with reference to an average value of inputted image data of the frame, and with respect to frames other than the predetermined frame immediately after the scene change is detected operates as a low pass filter.

Claims 9,20 depend on claims 3,14.

Relative to claims 10,21 the major difference between the teaching of the prior art of record (Iwama et al., Hansen and Yamada et al.) and the instant invention is that the scene change detecting portion has means for computing an average value of inputted image data for each frame and means for calculating a difference in the

average value between frames and comparing the absolute value of this difference with a preset value to determine whether or not there has been a scene change.

Telephone Inquire

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 571-272-7683. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS
12.01.06

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECH CENTER 2600